

Combating Infant Mortality Perinatal Periods of Risk Analysis

A Comparison of 2000-2002 &
2003-2005 Birth Cohort Results

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Perinatal Periods of Risk Analysis

- Widely used by health departments and supported by CDC, March of Dimes, WHO, and CityMatCH
- Used to identify potential opportunity gaps between population groups
- Used to guide further investigations and focus prevention efforts.

Methodology

- Method assumes that not all deaths are preventable
- Identifies excess deaths by comparing death rates among subgroups to a reference group known to have good birth outcomes.

Arizona Reference Group

- In general, rates tend to be lower for white, well-educated women between the ages of 20-35
- Reference group chosen:
 - White, non-Hispanic women,
 - at least 13 years of education,
 - at least 20 years of age at time of delivery.

Perinatal Periods of Risk Analysis

- Attributes fetal-infant deaths to periods of risk depending on birth weight and age at time of death
- Target interventions corresponding to periods with the most excess deaths.

Map of Feto-Infant Mortality

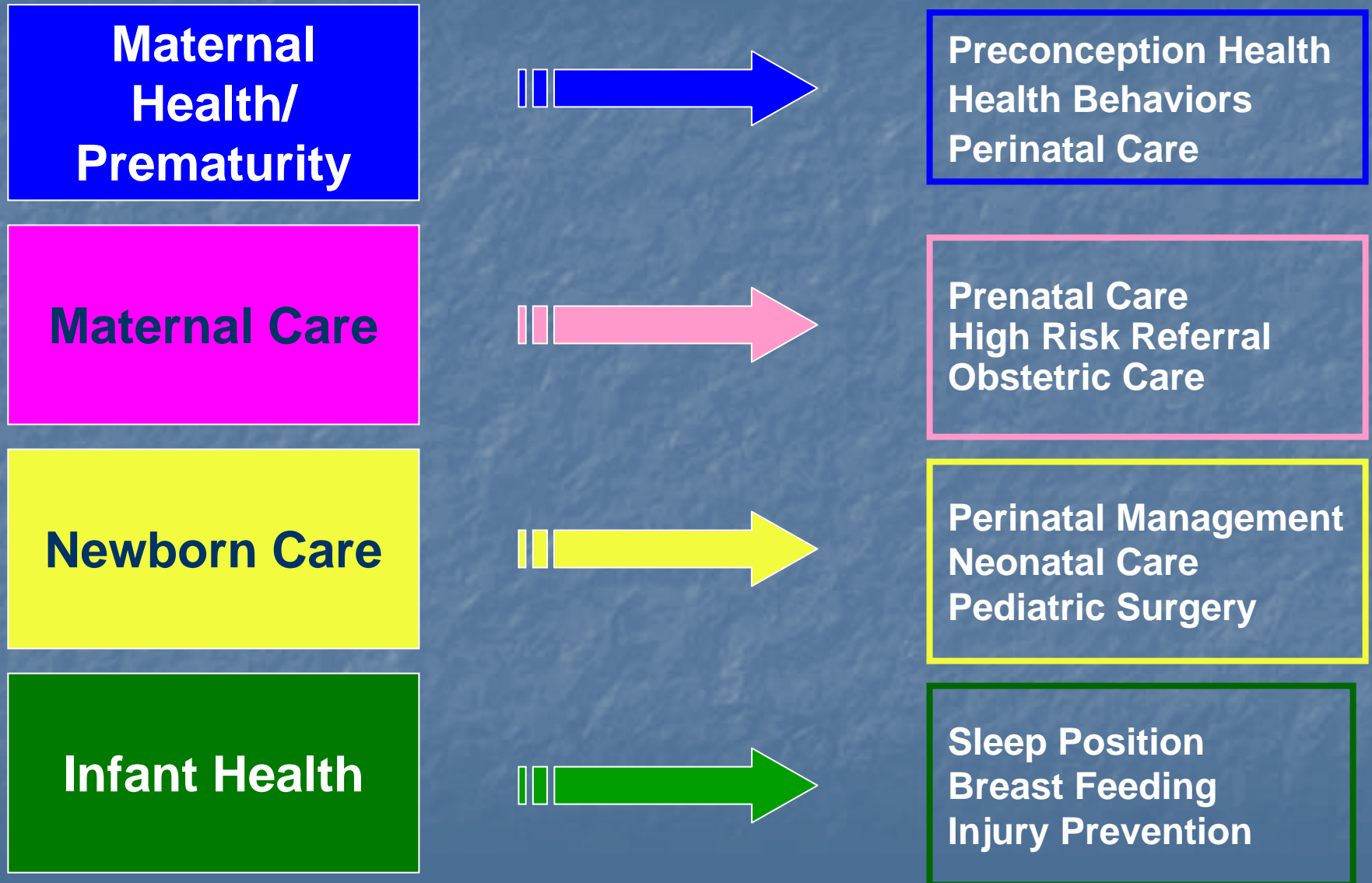
Age at Death

Birth weight in Grams	Age at Death		
	Fetal death	Birth - 27 th day of life	28 th - 365 th day of life
Under 1,500 grams	Maternal Health /Prematurity		
1500+ grams	Maternal Care	Newborn Care	Infant Health

Preventable Deaths

- Excess death rate is calculated by comparing mortality rates to reference group
- Calculation is done within each category to associate deaths with specific periods of risk
- Target prevention activities based on which period accounts for most excess deaths.

From Data to Potential Action



Overall

- Percent of deaths that were excess decreased from 31% to 29% from the 2000-2002 to the 2003-2005 cohort
- Period with highest excess death rate changed from the maternal health period to the infant health period
- African Americans consistently had the highest rate and number of excess deaths

Ethnicity

- % of deaths that were considered to be excess was similar for both Hispanics and non-Hispanics for both cohorts (2000-2002: 31% 2003-2005: 29%)

Hispanics

- % of deaths that were considered to be excess decreased from 31% to 29%
- Excess death rate declined from 2.7 to 2.3 (per 1,000 live births and fetal deaths)
- Period with highest excess death rate changed from the maternal health AND maternal care period to just the maternal care period

Non-Hispanics

- % of deaths that were considered to be excess decreased from 31% to 29%
- Excess death rate declined from 2.7 to 2.4 (per 1,000 live births and fetal deaths)
- Period with the highest excess death rate continued to be the maternal care period

African Americans

- Highest excess death rate compared to other race groups
- % of deaths that were considered to be excess declined from 61% to 59%
- Excess death rate declined from 9.3 to 8.1
(per 1,000 live births and fetal deaths)
- Period with the highest excess death rate continued to be the maternal health period

American Indians

- % of deaths that were considered to be excess declined from 50% to 46%
- Excess death rate declined from 5.9 to 4.9
(per 1,000 live births and fetal deaths)
- Period with the highest excess death rate continued to be the infant Health Period

Whites

- Lowest excess death rate compared to other race groups
- Percent and rate of excess deaths remained relatively the same between cohorts (~27% and 2.1 (per 1,000 live births and fetal deaths))
- Period with highest excess death rate changed from the maternal health period to the maternal care period

Women under 20

- % of deaths that were considered to be excess increased from 38% to 43%
- Excess birth rate increased from 3.7 to 4.4
(per 1,000 live births and fetal deaths)
- Period with the highest rate of excess deaths changed from the maternal care period to the infant health period

Women over 35

- % of deaths that were considered to be excess decreased from 50% to 43%
- Excess death rate declined from 6.0 to 4.4 (per 1,000 live births and fetal deaths)
- Maternal care period continued to be the period with the highest rate of excess deaths

12 or Less Years of Education

- % of deaths that were considered to be excess remained relatively constant at ~39%
- Excess death rate decreased from 4.0 to 3.6 (per 1,000 live births and fetal deaths)
- Period with the highest rate of excess death changed from the maternal health period to the infant health period

13 or More Years of Education

- % of deaths that were considered to be excess and excess death rate remained relatively constant ($\sim 6\%$ and ~ 0.4 (per 1,000 live births and fetal deaths))
- Period with the highest rate of excess death remained the maternal health period

Conclusions

- Groups we should be focusing on in Arizona:
 - African Americans
 - Teens
 - Older women
 - Women with less than 13 years of education
 - American Indians
- These are the periods we should be focusing on in Arizona:
 - Maternal health/prematurity
 - Maternal care
 - Infant health

Thank You!

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